

109TH CONGRESS
2D SESSION

S. 3790

To create a set of effective voluntary national expectations, and a voluntary national curriculum, for mathematics and science education in kindergarten through grade 12, and for other purposes.

IN THE SENATE OF THE UNITED STATES

AUGUST 3, 2006

Mrs. CLINTON introduced the following bill; which was read twice and referred to the Committee on Health, Education, Labor, and Pensions

A BILL

To create a set of effective voluntary national expectations, and a voluntary national curriculum, for mathematics and science education in kindergarten through grade 12, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “National Mathematics
5 and Science Consistency Act”.

6 **SEC. 2. FINDINGS.**

7 Congress finds the following:

1 (1) The United States has fallen behind other
2 industrialized countries in terms of competing in a
3 global economy. This deterioration is due in large
4 part to the diminishing number of well-trained peo-
5 ple in the fields of mathematics, science, and tech-
6 nology, as well as the decrease in scientific innova-
7 tions generated from the United States in recent
8 years.

9 (2) Not only did the United States produce
10 fewer graduates in mathematics, science, and engi-
11 neering in 2002 than it did in 1985, but the United
12 States is also generating far fewer college graduates
13 in those fields than other countries. In China, 59
14 percent of undergraduates receive degrees in science
15 and engineering and in Japan, 66 percent receive
16 such degrees, but in the United States, only 32 per-
17 cent of undergraduates receive degrees in science
18 and engineering.

19 (3) United States students are scoring far be-
20 hind students in other countries on international
21 mathematics and science assessments. A recent
22 Trends in International Mathematics and Science
23 Study (TIMSS), the largest and most comprehensive
24 comparative international study of education, found
25 that 12th graders in the United States ranked 21st

1 out of 40 industrialized countries on general knowl-
2 edge in mathematics and science. Furthermore, the
3 Programme for International Student Assessment
4 (PISA), an organization that compiles reports on the
5 reading and mathematics skills of 15-year-olds,
6 found that the United States ranked 28th out of 40
7 nations surveyed in mathematics literacy.

8 (4) In the United States, each State has its
9 own set of standards and curriculum for mathe-
10 matics and science education in kindergarten
11 through grade 12, with its own definition of pro-
12 ficiency for these standards. When each State's defi-
13 nition of proficiency is compared to a national
14 model, less than 40 percent of the students in grade
15 4, and only 17 percent of the students in grade 12,
16 reach the national proficiency level in mathematics.
17 In addition, approximately $\frac{1}{3}$ of the students in
18 grades 4 and 8, and nearly $\frac{1}{2}$ of the students in
19 grade 12, do not reach the basic level in science, ac-
20 cording to the recent National Assessment of Edu-
21 cational Progress.

22 (5) In its report, *Rising Above the Gathering*
23 *Storm: Energizing and Employing America for a*
24 *Brighter Economic Future*, the National Academy of
25 Sciences recommends that the Department of Edu-

1 cation collect “effective K–12 materials that would
 2 be available free of charge as a voluntary national
 3 curriculum that would provide an effective standard
 4 for K–12 teachers”. The National Academy of
 5 Sciences advocates for the creation of world-class na-
 6 tional benchmarks and a national curriculum in
 7 order to ensure students are receiving the skills
 8 needed to successfully compete in a global economy.

9 **SEC. 3. DEVELOP VOLUNTARY NATIONAL EXPECTATIONS**
 10 **AND A VOLUNTARY NATIONAL CURRICULUM**
 11 **FOR MATHEMATICS AND SCIENCE EDU-**
 12 **CATION IN KINDERGARTEN THROUGH GRADE**
 13 **12.**

14 (a) PANEL.—The Secretary of Education shall con-
 15 vene a panel to produce voluntary national expectations
 16 for mathematics and science education, accompanied by
 17 a sample curriculum for mathematics and science and as-
 18 sessment items for each expectation, for kindergarten
 19 through grade 12.

20 (b) MEMBERS OF PANEL.—The panel described in
 21 subsection (a) shall be composed of—

- 22 (1) professionals from the National Academy of
- 23 Sciences;
- 24 (2) psychometricians;
- 25 (3) State-level education officials;

1 (4) National Board certified teachers;

2 (5) recipients of Presidential Awards for Excel-
3 lence in Mathematics and Science Teaching under
4 section 117(a) of the National Science Foundation
5 Authorization Act of 1988 (42 U.S.C. 1881b(a));

6 (6) representatives of the National Science
7 Foundation;

8 (7) representatives of the National Council of
9 Teachers of Mathematics;

10 (8) representatives of the National Science
11 Teachers Association; and

12 (9) members of any other entities that the Sec-
13 retary of Education determines necessary.

14 (c) DUTIES OF PANEL.—The panel described in sub-
15 section (a) shall—

16 (1) identify the core ideas in mathematics and
17 science common to all States;

18 (2) develop a minimum comprehensive set of
19 voluntary national expectations for mathematics and
20 science, based on the core ideas in mathematics and
21 science common to all States, that are taken, or
22 adapted, from—

23 (A) the effective State mathematics and
24 science standards, as of the date of enactment
25 of this Act; or

1 (B) the most recent National Science Edu-
 2 cation Standards developed by the National
 3 Science Teacher Association and the most re-
 4 cent Principles and Standards for School Math-
 5 ematics developed by the National Council of
 6 Teachers of Mathematics;

7 (3) develop a model curriculum for mathematics
 8 and science based on the voluntary national expecta-
 9 tions, that is taken or adapted from effective State
 10 mathematics and science teaching materials to serve
 11 as a voluntary national curriculum;

12 (4) develop sample assessment questions based
 13 on each national mathematics and science expecta-
 14 tion for teachers to use throughout the school year
 15 to guide instruction; and

16 (5) develop and coordinate professional develop-
 17 ment criteria that would prepare teachers to incor-
 18 porate the voluntary national expectations.

19 (d) PERSONNEL MATTERS.—

20 (1) COMPENSATION OF MEMBERS.—Each mem-
 21 ber of the panel who is not an officer or employee
 22 of the Federal Government shall be compensated at
 23 a rate equal to the daily equivalent of the annual
 24 rate of basic pay prescribed for level IV of the Exec-
 25 utive Schedule under section 5315 of title 5, United

1 States Code, for each day (including travel time)
2 during which such member is engaged in the per-
3 formance of the duties of the panel. All members of
4 the panel who are officers or employees of the
5 United States shall serve without compensation in
6 addition to that received for their services as officers
7 or employees of the United States.

8 (2) TRAVEL EXPENSES.—The members of the
9 panel shall be allowed travel expenses, including per
10 diem in lieu of subsistence, at rates authorized for
11 employees of agencies under subchapter I of chapter
12 57 of title 5, United States Code, while away from
13 their homes or regular places of business in the per-
14 formance of services for the panel.

15 (e) AUTHORIZATION OF APPROPRIATIONS.—There
16 are authorized to be appropriated to carry out this section
17 such sums as may be necessary for each of the fiscal years
18 2007 and 2008.

19 **SEC. 4. GRANTS TO STATE EDUCATIONAL AGENCIES.**

20 (a) IN GENERAL.—From amounts appropriated
21 under subsection (e) for a fiscal year, the Secretary of
22 Education shall award grants, on a competitive basis, to
23 eligible State educational agencies to enable the eligible
24 State educational agencies to carry out all of the following:

1 (1) Contract with entities that publish edu-
2 cational materials, in order to develop instructional
3 materials based on the voluntary national curriculum
4 for mathematics and science developed under section
5 3(c)(3), in order to effectively teach the voluntary
6 national expectations developed under such section.

7 (2) Ensure that the eligible State educational
8 agency has the infrastructure and technical assist-
9 ance necessary to provide all instructional materials
10 developed under paragraph (1) online and free of
11 charge to teachers and school faculty and staff.

12 (3) Train mathematics and science teachers in
13 kindergarten through grade 12—

14 (A) to effectively use instructional mate-
15 rials to teach the voluntary national expecta-
16 tions for mathematics and science produced
17 under section 3(c)(2); and

18 (B) to use the assessment questions devel-
19 oped under section 3(c)(4) to steer instruction.

20 (b) APPLICATION.—An eligible State educational
21 agency desiring a grant under this section shall submit
22 an application to the Secretary of Education at such time,
23 in such manner, and containing such information as the
24 Secretary may require. The application shall include a de-

1 scription of the activities that will be carried out through
 2 a grant under this section.

3 (c) REPORT.—Not later than 60 days after the last
 4 day of the grant period, an eligible State educational agen-
 5 cy receiving a grant under this section shall prepare and
 6 submit a report to the Secretary of Education describing
 7 the results of the grant.

8 (d) DEFINITION OF ELIGIBLE STATE EDUCATIONAL
 9 AGENCY.—In this section, the term “eligible State edu-
 10 cational agency” means a State educational agency that
 11 agrees to adopt and implement the voluntary national ex-
 12 pectations and the voluntary national curriculum for
 13 mathematics and science education in kindergarten
 14 through grade 12 that are developed under section 3.

15 (e) AUTHORIZATION OF APPROPRIATIONS.—There
 16 are authorized to be appropriated to carry out this section
 17 a total of \$100,000,000 for the fiscal years 2007 through
 18 2011.

19 **SEC. 5. REPORT.**

20 Not later than 2 years after the date of enactment
 21 of this Act, and annually thereafter, the Secretary of Edu-
 22 cation shall—

23 (1) study the effects of the voluntary national
 24 expectations and the voluntary national curriculum
 25 of mathematics and science on student achievement

1 developed under section 3 on the National Assess-
2 ment of Educational Progress, the Trends in Inter-
3 national Mathematics and Science Study, and the
4 Programme for International Student Assessment,
5 for the most recent year available, as compared to
6 the effects of State standards and curricula on stu-
7 dent achievement on such assessments; and
8 (2) shall prepare and submit a report to Con-
9 gress on the Secretary's findings.

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